ABSTRACT

An industrial process for producing hydroxyaldehydes efficiently, by solving the problems of conventional DERA, such as low stability against aldehydes, low catalytic activity for aldol condensation, and the difficulty of controlling the number of acetaldehyde molecules to be condensed, is provided.

According to the process, aldol condensation of a substituted or unsubstituted aliphatic aldehyde compound having 2 to 6 carbon atoms with acetaldehyde is conducted by using D-2-deoxyribose-5-phosphate aldolase which is highly stable against aldehydes and has high catalytic activity for aldol condensation, whereby a hydroxyaldehyde compound having the number of carbon atoms increased by two or four can be produced.